

Claim 5 (Twice Amended)

Line 2, change "Claim 1" to --Claim 2--

Claim 9 (Twice Amended)

Line 1, change "Claim 1" to --Claim 2--

REMARKS

Claims 2-8, 10, and 12-16 are pending in the present application. An Abstract of the Disclosure has been provided. The specification at page 10, line 19 and page 16, line 8 has been corrected in the Preliminary Amendment dated September 11, 1998 as per the Examiner's request. If not already done so, please make the appropriate amendments as set forth in the September 11, 1998 Preliminary Amendment.

Restriction of the claims

The claims have been restricted between the following groups of invention.

Group I, claims 1-8, 10 and 12-16 drawn to a DNA encoding alkaline liquefying alpha-amylase activity; and

Group II, claim 9, 11, 17-19 drawn to alkaline liquefying alpha-amylase activity.

Applicants traverse the Restriction Requirement.

The present application is a U.S. national phase application of a PCT international application. As such the present application is to be considered for unity of invention as provided under the Articles and Rules of the PCT.

Under Unity of Invention, (a) group of invention is considered linked to from a single general inventive concept where there is a technical relationship among the inventions that involves at least one common and corresponding special technical feature. See MPEP 1893.03(d).

The special technical feature of the present invention is a DNA encoding for an enzyme having alpha-amylase activity and the enzyme per se. The claims of Group I are drawn to a DNA encoding for the enzyme and Group II is drawn to the amino acid sequence of the protein. As such there is a common technical feature to the groups of claims and they do not lack unity of invention.

This position is further supported by the fact that the application was not objected to for lack of unity of invention during the International Preliminary Examination. Thus,

applicants respectfully request that the Examiner rejoin the claims of Group II with Group I, and examine all claims on the merits. However, in the event that the Examiner maintains her position, applications reaffirm the election of Group I, with traverse.

Rejection under 35 USC 112

Claim 1 stands rejected under 35 USC 112, first paragraph. The rejection is traversed. Reconsideration and withdrawal of the rejection is earnestly solicited.

Claim 1 has been canceled, thus obviating the rejection.

Claims 12 and 13 stand rejected under 35 USC 112, first paragraph. The rejection is traversed. Reconsideration and withdrawal of the rejection is earnestly solicited.

Applicants respectfully submit that FERM BP-3048 has been deposited under the Budapest Treaty and that all restrictions imposed by the depositor on the availability to the public of the deposited material will be irrevocably removed upon the granting of patent and thus the deposit requirements under 37 CFR 1.808 have been met. Withdrawal of the rejection is requested.

Claims 2, 3, 8 and 10 stand rejected under 35 USC 112, second paragraph. The rejection is traversed. Reconsideration and withdrawal of the rejection is earnestly solicited.

Claim 2 has been amended to recite that the DNA fragments have alpha-amylase activity. The amendment should overcome the rejection.

The better translation for the term "inverted" is translocated and the appropriate amendment has been made to claim 3.

Claims 8 and 10 have been amended to recite SEQ ID No. 1 which is directed to a nucleic acid sequence. With respect to the objection of claims 8 and 10, there is nothing vague and indefinite about the terminology "hybridizes to" as such terminology certainly satisfies the second paragraph of 35 USC 112. If the Examiner intended to reject these claims under the first paragraph with respect to scope, the Examiner's attention is directed to the fact that hybridization techniques are well known in the art as evidenced by the well known manual Maniatis, T. et al., Molecular Cloning, Cold Spring Harbor Laboratory, New York 1982 whose volumes are too large to submit as evidence. Withdrawal of this aspect of the rejection is earnestly solicited.

Rejection under 35 USC 102(b)

Claims 1, 3-8, 10 and 14-16 stand rejected under 35 USC 102(b) as being anticipated by Tsukamoto et al. or Yuuki et al. The rejection is traversed.

First, claim 1 has been canceled. Second, with respect to claim 3, this claim has been amended to recited that the substituted, added deleted translocated or inserted amino acid sequence is equivalent in activity to the amino acid sequence of SEQ ID No. 2. Thus, Tsukamoto et al. and Yuuki et al. can not anticipate the claim since the alpha amylase of these references do not the same activity as the alpha amylase of the present invention. Withdrawal of the rejection is earnestly solicited.

Rejection under 35 USC 103

Claim 2 stands rejected under 35 USC 103 as being unpatentable over Tsukamoto et al. or Yuuki et al. The rejection is traversed.

The Examiner asserts that because the prior art teaches an active fragment of the respective disclosed alkaline liquefying alpha-amylase enzyme, an active fragment of SEQ ID NO: 2 would be obvious. Applicants respectfully disagree with the

Examiner's conclusion. Applicants assert that since the intact sequence of SEQ ID NO: 2 is not obvious, a portion of that sequence should similarly not be obvious. Moreover, Tsukamoto et al. or Yuuki et al. discusses an active center, based on a presumption of a region manifesting activity but fails to provide any suggestion of an active fragment of SEQ ID NO: 2 which exhibits the alpha amylase activity of SEQ ID NO: 2. Accordingly, a prima facie case of obvious can not be said to exist for active fragments of SEQ ID NO: 2 having alpha amylase activity.

Having addressed the outstanding rejections, withdrawal of the rejection is earnestly solicited.

Pursuant to 37 CFR 1.17 and 1.136(a), the Applicants respectfully petition for a two (2) month extension of time for filing a response in connection with the present application and the required fee of \$380.00 is attached hereto.



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If necessary, the Commissioner hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fee required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully yours,

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